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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,302	10/10/2003	Peter Whaitc	15818-3US-1 JA/AD/mb	7330
20988 7590 01/10/2007 OGILVY RENAULT LLP 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			EXAMINER RAPP, CHAD	
			ART UNIT 2125	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/682,302

Applicant(s)

WHAITE ET AL.

Examiner

Chad Rapp

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1- 29, 41, 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29, 41, 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/05/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Claims 1-29, 41 and 46 are presented for examination.

***Claim Objections***

2. Claim 11 is objected to because of the following informalities: Claim 11 refers upon itself. Examiner believes based on antecedent basis that claim 11 should refer back to claim 9. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 1 "the appearance" should be changed to "an appearance". There is insufficient antecedent basis for this limitation in the claim.

In claim 3, line 3 "the color separation properties" should be changed to "the color separation properties". There is insufficient antecedent basis for this limitation in the claim.

In claim 15, lines 1-2 "the illumination pattern" should be changed to "an illumination pattern". There is insufficient antecedent basis for this limitation in the claim.

In claim 15, line 2 "the front" should be changed to "a front". There is insufficient antecedent basis for this limitation in the claim.

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In claim 21, line 4 “the calibration target” should be changed to “a calibration target”.

There is insufficient antecedent basis for this limitation in the claim.

In claim 21, line 5 “the calibration process” should be changed to “a calibration process”.

There is insufficient antecedent basis for this limitation in the claim.

In claim 21, line 8 “the light source” should be changed to “a light source”. There is insufficient antecedent basis for this limitation in the claim.

In claim 21, line 11 “the reference colors” should be changed to “reference colors”.

There is insufficient antecedent basis for this limitation in the claim.

In claim 21, line 11 “the calibration standard” should be changed “a calibration standard”. There is insufficient antecedent basis for this limitation in the claim.

In claim 22, line 1 “the nose” should be changed to “nose”. There is insufficient antecedent basis for this limitation in the claim.

In claim 24, lines 2-3 “the exit” should be changed to “an exit”. There is insufficient antecedent basis for this limitation in the claim.

In claim 26, lines 2-3 “the rear” should be changed “rear”. There is insufficient antecedent basis for this limitation in the claim.

In claim 28, line 2 “the illumination intensity” should be changed to “an illumination intensity”. There is insufficient antecedent basis for this limitation in the claim.

In claim 28, line 2 “the unit” should be changed to “an unit”. There is insufficient antecedent basis for this limitation in the claim.

In claim 41, line 1 “said MAT system” should be changed to “a MAT system”. There is insufficient antecedent basis for this limitation in the claim.

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In claim 46, lines 1-2 "said MAT system" should be changed to "a MAT system". There is insufficient antecedent basis for this limitation in the claim.

Note: when above problems are fixed claims 11, 19, 20 and 23-28 will be objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 13-18, 21, 22, 29, 41 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. in view of Tsai.

Breton et al. teaches the claimed invention (claim 1) substantially as claimed including a device for measuring the appearance of an object that is based on a digital camera platform design comprising:

a. A color sensor for capturing an image of an object and collecting appearance data from said object is taught as CCD camera to collect image map of a plurality of points on surface and processing to produce that information to produce appearance mapping of the object(abstract);

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b. A memory storage system for saving said captured image is taught as computer memory(col. 4 line 39);

c. A CPU internal to said device allowing interpretation and processing of said appearance data to determine appearance factors for said image is taught as a controller to process data (col. 3 lines 12-15 and col. 3 lines 46-50).

Breton et al. teaches the above listed of the independent claim 1, however, Breton et al. does not teach: a display on said device for displaying the capture image is taught as video displaying.

Tsai teaches:

a. A display on said device for displaying the capture image is taught as video displaying is disposed integrally within body of instrument(abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because if the display was elsewhere user would continually look away from where he is using it. It diverts attention away from patient causing errant actions. With what Tsai discloses the display is on the device so the attention can be toward the device being used.

As to claim 2, Tsai teaches a handheld device is taught as a hand –held device(abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because device is hand-held allows it to be not awkward and agronomical.

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As to claim 3, Breton et al. teaches wherein said sensor for capturing the image is selected from a group comprising of a CMOS sensor, CCD sensor, and an X# sensor based on the color separation properties of silicon is taught as CCD camera(col. 3 lines 51-52).

As to claim 4, Tsai teaches wherein said display device comprises an LCD panel is taught as LCD(page 10 lines 4-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because a miniature CCD allows the monitor to be place on the device and if the display was elsewhere user would continually look away from where he is using it. It diverts attention away from patient causing errant actions. With what Tsai discloses the display is on the device so the attention can be toward the device being used.

As to claim 5, Breton et al. teaches wherein said LCD panel is able to display interpretive maps of the captured image is taught as controller output appearance map to display(col. 3 lines 12-15 and col. 4 lines 36-38).

As to claim 6, Breton et al. teaches wherein said object is a dental object is taught as apparatus determines appearance of object such as tooth(col. 1 lines 9-10)

As to claim 7, Breton et al. teaches wherein said dental object comprises one of a crown, plate, bridge and replacement tooth is taught as tooth tot be replaced(col. 1 line 16).

As to claim 13, Breton et al. teaches further comprising a means for illuminating said objects is taught as illuminate surface or object(abstract).

As to claim 14, Breton et al. teaches wherein said illumination means comprises white light emitting diodes is taught as white light (col. 7 line 56).

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As to claim 15, Tsai teaches further comprising a means for alternating the illumination pattern and depth of focus attached on the front of said device is taught as image focus control (page 6 line 6 and page 9 line 9)

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because allows the capture of objects of differing sizes more clearly.

As to claim 16, Tsai teaches wherein said CPU comprises means for connecting to and communicating with a computer network is taught as computer network (page 11 lines 13-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because allows telemedicine to consult on operation in real time from distant places.

As to claim 17, Tsai wherein said computer network is the Internet is the Internet (page 11 lines 13-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because allows telemedicine to consult on operation in real time from distant places.

As to claim 18, wherein said CPU transmits said image of said object to said computer network is taught as electronic image signal sent to external port than to computer network (page 11 lines 13-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Tsai because allows telemedicine to consult on operation in real time from distant places.



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As to claim 21, Breton et al. teaches a handheld MAT device as defined in claim 2, wherein said device comprises a means for calibrating said device means comprising one or more of a cradle for holding the MAT device, said cradle housing designed to accurately position the calibration target correctly for the MAT device, providing the calibration process with a sleep mode, spatial compensation means for known and consistent spatial variations in the image, light feedback control means using a camera output to modify the light source, means for implementing the concept of absolute color standards for inter-device communication, process for selecting the reference colors of the calibration standard, means for signaling need for replacement of calibration color patch is taught as calibration measurement taken while apparatus is on holster(col.5 lines 66-67).

As to claim 29, Breton et al. teaches wherein calibration patch is provided with bar codes for identifying the calibration patch is taught as target patch has a barcode(col. 6 lines 24-28).

As to claim 41, Breton et al. teaches wherein a said MAT system is as defined in claim 1 is taught as collecting color shade(col. 1 lines 9-10 and col. 2 line 60)

As to claim 42, Breton et al. teaches wherein said shade map manipulation means comprises means for selecting one or more areas of the map and changing, deleting or adding shade to said area is taught as tooth replacement with controller processing(col. 1 lines 15-16 and col. 3 lines 12-15).

7. Claims 8-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. in view of Tsai and further in view of Adair.

Breton et al. and Tsai teach the claimed invention see paragraph number 6 above.

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As to claim 8, Adair teaches further comprising a microphone to record voice information to describe and/or annotate the captured image of the object is taught as a microphone(col. 4 lines 61-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Adair because Adair discloses a microphone lets the device to be sterile. No need to touch device during operation.

As to claim 9, Adair teaches wherein said CPU processor links to said captured image of the object with said recorded voice information describing and/or annotating said captured image of the object is taught as recording data represented by an image(col. 4 lines 51-52 and col. 5 lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Adair because Adair discloses a hands free recording lets the device to be sterile. No need to touch device during operation

As to claim 10, Adair teaches further comprising a keypad for inputting textual information about the image of the object is taught as touch screen and key pads(col. lines 36-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Adair because allows an easy system to make notes rather than having paper about not linked to images.

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As to claim 12, Adair teaches further comprising an internal speaker to play the recorded attached voice annotations is taught as speaker provides audio feedback(col. 5 lines 1-3 and col. 8 lines 60-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Breton et al. in view of Adair because Adair discloses a hands free recording and hands free listening lets the device to be sterile. No need to touch device during operation.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (571)272-3752. The examiner can normally be reached on Mon-Fri 11:00-7:00.

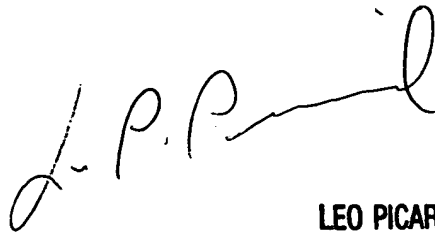
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chad Rapp  
Examiner  
Art Unit 2125

cjr

A handwritten signature in black ink, appearing to read 'L. P. Picard', written in a cursive style.

**LEO PICARD**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**